



B-01 - REQUIREMENTS FOR CONSTRUCTION PLANS:

Residential Buildings (Single Family Residences, Duplexes, and ADUs)

Building Permit applications for new buildings must be accompanied by the following construction documents for review and approval by Building and Safety prior to issuance of a building permit.

- 1. A complete set of plans (construction drawings)**
- 2. Structural Calculations**
- 3. Soils report**
- 4. Energy Conservation Forms**

Complete set of plans

- For most building projects, the plans must be prepared by a registered Architect, Civil Engineer, and/or Structural Engineer.
- Plans must be submitted electronically via the County's permit portal, Citizen Access. (For customers with special needs, the County will digitize and upload paper plan submittals, upon request)
- Plans must be drawn to scale and CONTAIN THE FOLLOWING INFORMATION shown in a clear and legible manner:

1. SITE PLAN: (Preferred scale: 1" - 10' for an average size lot, or 1" - 40' for larger lots.)

- a. Assessor's parcel number. For example: 123-0-456-789.
- b. Owner's name and project address.
- c. Preparer's name and address.
- d. Size and location of all proposed and existing buildings and structures on the lot and their intended use.
- e. Location of the existing or proposed sewer system drawn accurately to scale.
- f. Setback distances from the building to front, side, and rear property lines.
- g. Names of adjacent public and/or private streets or roadways abutting the property.
- h. Reflect the topography (existing and proposed grades) of the lot and the extent of grading to be done, i.e., a grading permit number or a note on the plan stating that "no grading is proposed," when applicable. Identify slopes by showing the extent and location of the top and toe of the slope.
- i. Indicate drainage at minimum 2% slope away from the building.
- j. Location of any proposed and existing retaining walls and other structures on the site.
- k. Point of utility connections for water, sewer, electricity, and natural gas lines serving the property.
- l. Identify the location of any easements on the property and easement holder's identity. For example: "10-ft easement for SCE").
- m. For large or rural parcels, include a Vicinity Plan showing major access roads and nearest cross streets, private access roads and driveways, and project site location.
- n. Include a Sheet Index for larger sets of plans.

2. FLOOR PLAN: (Preferred scale: 1/4" = 1')

- a. A completely dimensioned floor plan for each floor level.
- b. The use of **all** rooms in the building.
- c. Door and window locations, sizes, types, including door hardware.
- d. All porches, balconies, breezeways, carports, garages, etc.
- e. Complete information on the heating and/or air conditioning system(s), location, and size.
- f. Location of all smoke detectors and carbon monoxide detectors.

3. **ROOF AND ROOF DECK PLANS: (Preferred scale: 1/4" = 1')**
 - a. Roof shapes & pitch. Show roof hips, valleys, overhangs, roof crickets, parapets, and other roof features.
 - b. Size and location of roof openings, vents, skylights, etc.
 - c. Outline of exterior walls below.
 - d. Show location of decks, balconies, penthouses, and other architectural roof features.
 - e. Roofing type and material, including fire classification.
 - f. Show locations of roof vents, chimneys, solar systems, and other roof-mounted equipment.
 - g. Include attic vent locations and sizing calculations. Include attic vent material specs.
 - h. Roof gutter and downspout locations, if any.
 - i. For flat roofs, include drain and overflow drain locations.

4. **ELEVATIONS: (Preferred scale: 1/4" = 1')**
 - a. Elevations of the exterior of the building.
 - b. Specify exterior wall finishes.
 - c. Show the type of roofing and the pitch of the roof.
 - d. Clear dimensions in the vertical direction to show the proposed building height.
 - e. The elevations should depict actual site conditions to ensure proper clearances to adjacent structures, slopes, etc.
 - f. Location of all openings (windows, doors, etc.) in the perimeter walls.
 - g. Dimension of eave projections.

5. **CROSS SECTIONS: (Preferred scale: 1/4" = 1')**
 - a. Architectural cross-sections of the building showing the typical construction to be used.
 - b. Include structural sections or reference structural detailing to the architectural sections showing cross references for shear transfer and connection details.
 - c. Floor to floor or floor to ceiling heights.
 - d. Insulation in walls that separate conditioned from unconditioned spaces.
 - e. Framing depth.
 - f. Finish elements.

6. **FOUNDATION PLAN: (Preferred scale: 1/4" = 1')**
 - a. A completely dimensioned foundation plan for the building.
 - b. The extent and location of all slabs and foundations for patios, breezeways, garages, etc.
 - c. Any special construction features such as retaining walls, grade beams, caissons, elevator shafts, etc. as required by the soils/Geotech report or by the building configuration, or site conditions.
 - d. Size and location of all special footings, grade beams, caissons, retaining walls, slab block outs, etc., required by the structure.
 - e. The size and location of all isolated pad footings.
 - f. Size, spacing, locations, and material specifications for re-enforcement bars, anchor bolts, hold downs, and other hardware.
 - g. The extent and location of all slabs and foundations.
 - h. Size and location of underfloor vents and access panel for raised floor foundations.
 - i. Compliance with all the recommendations made by the Soils/Geotech Engineer or compliance with requirements of VCBS handout B-49 (Soils Waiver) for expansion index of 91-130.

7. **FRAMING PLAN: (Preferred scale 1/4" = 1')**
 - a. Roof framing plan for roofs and ceilings.
 - b. Floor framing plans for upper floors, ceilings, and first floor framing for raised floor foundations.
 - c. Show repetitive, primary, and secondary framing members with their respective specifications for materials strength. For wood-framed buildings, include joist/rafter sizes, spans, spacing and extent, locations of posts, beams, drag struts, connection detail references, shear wall locations, catalog references and pertinent specifications for connection hardware.

8. CONSTRUCTION DETAILS: (Drawn to a scale that is preferred by designer)

- a. Stairways, decks, and balcony connections to buildings.
- b. Guard rails connections. (Include material specifications, connector spacing, etc.)
- c. Framing connections at shear wall locations for proper and shear transfer.
- d. Chimney connections to roof.
- e. Post and beam connections.
- f. Footings, grade beams and post base connections.
- g. Masonry and concrete reinforcement.
- h. Steel framing connections.
- i. Retaining wall footings.
- j. Flashing details at roof discontinuities.
- k. Wood framing connections that are not conventional.
- l. Detail sheets containing typical construction details will not be accepted when they contain details and information not applicable to the project.

9. ENERGY REQUIREMENTS:

- a. Form CF-R and others (if applicable) shall be completely and legibly filled out including the required signatures and shall be reproduced on the plans as a page or part of a page of the plans. (They may be reduced in size so long as they are legible.)
- b. Form MF-R shall also be completed (check off items which apply to your project under the designer column) and reproduced on the plans.
- c. Include the correct climate zone.
- d. Under compliance method include the method used to meet requirements such as: package designation, computer method, etc.
- e. Show north arrow and all orientations used in the input.
- f. The square footage of conditioned space on the energy forms must reflect the square footage of the building shown on the plans.

10. PLUMBING: (Plumbing plan review is required for residences exceeding two stories in height or 3,000 square feet)

- a. Floor plan showing location of all plumbing fixtures.
- b. Isometric plans all plumbing lines.
- c. Location of connection to building drain to on-site sewer and elevation of next highest manhole cover to finished floor.
- d. Building connection points for all utilities.
- e. Sizing calcs for water and gas lines.
- f. Gas line calcs.
- g. Material specifications for all piping and fixtures.
- h. Plans shall be prepared by a State of California registered Architect, Mechanical Engineer, or licensed C-36 Plumbing Contractor who is doing the work on the project.

11. MECHANICAL: (Mechanical plan review is required for residences exceeding two stories in height or 3,000 square feet)

- a. Show location, ducts, diffusers, fire and smoke dampers, and hood construction detail.
- b. Show type and location of each heating and cooling unit and mechanical ventilation.
- c. Add equipment schedule.
- d. Plans shall be prepared by a State of California registered Architect, Mechanical Engineer, or licensed C-20 Mechanical Contractor who is doing the work on the project.

12. ELECTRICAL: (Electrical plan review is required for residences exceeding 10,000 sq ft)

Single Line Diagram

- a. Show conduit and wire sizes.
- b. Specify aluminum or copper conductors and insulation type.
- c. Show serving voltage, amperage, and short circuit current available from utility.
- d. Show service grounding method, ground wire size, and cold-water bond.
- e. Show sizes of fuses and/or circuit breakers and ampere interrupting capacities (AIC) of equipment.
- f. Show justification for equipment AIC rating by specifying fuse or breaker by manufacturer number or circuit length and/or short circuit calculation.
- g. Show main service arrangement with details on workspace, access, and connection to utility transformer.

Electrical Load Calculations/Panel Schedules

- a. Show electrical load calculations to justify the size and type of equipment and conductors to be installed.
- b. Show panel rated ampacity, AIC rating, voltage, main lugs only or with main protection, and panel locations.
- c. Show total load and per phase load in watts and amperes.

Lighting Plan

- a. Show outdoor lighting plan.
- b. Show layout of lighting fixtures, wiring, and switching. Identify luminaire type and wattage with supporting Title 24 energy compliance documentation.
- c. Plans shall be prepared by a State of California registered Architect, Electrical Engineer, or licensed C-10 Electrical Contractor who is doing the work on the project.